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EXAMINER

BRANCOLINI, JOHN R

ART UNIT

PAPER NUMBER

2153

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/864,749	Applicant(s) MOON, BILLY G.	
	Examiner John R Brancolini	Art Unit 2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-30 are pending in the application.

Priority

No claim for priority has been made. The effective filing date of the application is May 24, 2001.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on June 11, 2001 was filed after the mailing date of the application on May 24, 2001. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Figure 1 Items 18a, 18b and 18c (only referred to as 18).

Figure 1 Items 20a, 20b and 20c (only referred to as 20).

Figure 1 Items 22a, 22b and 22c (only referred to as 22).

Figure 1 Item 23.

Figure 11 Step 180.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with

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37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

Page 34, Line 24 the specification refers to Figure 11 Step 186 as "sending the name for mobile object 104 and HOA address 128 at step 186". When looking at figure 11, this statement corresponds to Step 180.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-5, 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 3-5 recite the limitation "determining to move the distributed service by the first virtual machine" in Claim 1. There is insufficient antecedent basis for this limitation in the claim. Claim 1 merely states that the claimed method determines to move the distributed service, never saying that this determination is done at the first virtual machine.

Claims 22-23 recite the limitation " determining to move the distributed service by the first virtual machine " in Claim 20. There is insufficient antecedent basis for this limitation in the claim. Claim 20 merely states that the claimed logic determines to move the distributed service, never saying that this determination is done at the first virtual machine.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 10-11, 14-25, 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Gifford (US Patent 6052718, entitled Replica Routing).

In the cited patent, Gifford discloses a method that takes a request from a user for distributed services on a replica router, or a virtual machine set up to act as a replica server. The replica server handles requests based on both network location as well as current performance of the network, attempting to optimize network performance. The method also allows a user to select a series of criteria, or lease constraints, which will

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aid in the routing of the request to the ultimate replica server where the service will ultimately occur.

In regards to claim 1, Gifford discloses a method for providing a distributed service in a network, comprising:

- Executing a distributed service on a first virtual machine at a first router located on a first network (at the replica router, a first virtual machine is created that begins the execution of a distributed service, in this case web-based processing, col 7 lines 51-59).
- Receiving lease constraints associated with a request to use the distributed service (lease constraints are attached to the request, in this case the IP address is included to constrain the system to provide service at a replica server located close to the requesting client in the system, col 7 line 57 – col 8 line 10).
- Determining to move the distributed service to a second virtual machine at a second router based on the lease constraints (once a suitable replica server, or second virtual machine is found based on the analysis of the IP address, the distributed service is moved by the replica router to the replica server by sending a redirect message to the client which in response automatically starts receiving the processed information, col 8 lines 30-62).

In regards to claim 2, Gifford discloses:

- Locating the second virtual machine at the second router (the replica router locates a second virtual machine at a second router location, col 8 lines 19-29).

- Allocating a processing resource on the second virtual machine to execute the distributed service (once the redirect message is sent to the user, the second virtual machine, located at the replica server, allocates resources to fulfilling the client's request, col 8 line 53 – col 9 line 5).
- Moving the distributed service from the first virtual machine to the second virtual machine (the client is automatically redirected to the second virtual machine by way of a redirection message sent from the first virtual machine at the replica router, col 8 lines 48-55).

In regards to claim 3, Gifford discloses determining to move the distributed service by the first virtual machine based on the lease constraints comprises:

- Analyzing traffic flow on the first network (the flow of messages between the first virtual machine and the second virtual machine are measured, the results which are used to determine network traffic performance, col 8 lines 30-38).
- Moving the distributed service to the second virtual machine on the second router to optimize the traffic flow on the first network (using the metric values of network performance, the first virtual machine can determine a second virtual machine to forward the request to which would optimize network traffic flow as well, col 8 lines 38-47).

In regards to claim 4, Gifford discloses:

- The lease constraints comprise a minimum amount of processing resources required to execute the distributed service (the request can include a limit to the network processing resources available, and to the required limit needed to fulfill

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the request, which is monitored by the replica router by measuring current performance at the client, col 8 lines 30-34).

- Determining to move the distributed service by the first virtual machine based on the lease constraints comprises:
 - Identifying processing resources available to execute the distributed service on the first virtual machine (a replica summary record is created which can include performance metric values that are evaluated against the requirements of the request, col 6 lines 20-32).
 - Moving the distributed service to the second virtual machine on the second router if the minimum amount of processing resources is greater than the identified processing resources (the best available replica server is chosen and a message is sent to the client which redirects the client to the second virtual machine, one which has been checked for the minimum necessary performance levels, col 8 lines 42-58).

In regards to claim 5, Gifford discloses:

- The lease constraints comprise a required portion of the distributed service requested for use (the lease constraints in the given example include an IP address, a network performance metric, and a basic request for information, the request for information which carries a required portion of processing resources needed for fulfilling the request, col 7 lines 51-59, col 8 lines 30-34).
- Determining to move the distributed service by the first virtual machine based on the lease constraints comprises:

- Measuring an available portion of the distributed service on the first virtual machine (performance is measured by the replica router to obtain a metric used to measure the current network performance between the replica router and the replica server, which in this instance is the distributed service [network connectivity and data transmission] the client is requesting, col 8 lines 30-47).
- Moving the distributed service to the second virtual machine on the second router if the required portion is greater than the available portion (the best available replica server is chosen and a message is sent to the client which redirects the client to the second virtual machine, one which has been checked for the minimum necessary performance levels, col 8 lines 42-58).

In regards to claim 6, Gifford discloses moving a portion of the distributed service to the second virtual machine at the second router based on the lease constraints (based on the IP address, or the necessary network performance, the replica router, or first virtual machine can forward the request to a second virtual machine, which in turn can further forward another portion of the request to another server, col 8 lines 20-47, col 8 line 58 – col 9 line 5).

In regards to claim 10, Gifford discloses a method for providing a distributed service in a network, comprising:

- Executing a distributed service on a first virtual machine at a first router located on a first network (at the replica router, a first virtual machine is created that

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begins the execution of a distributed service, in this case web-based processing, col 7 lines 51-59).

- Receiving lease constraints associated with a request to use the distributed services; the lease constraints including a required portion of the distributed service requested for use (lease constraints are attached to the request, in this case the IP address is included to constrain the system to provide service at a replica server located close to the requesting client in the system, col 7 line 57 – col 8 line 10).
- Measuring an available portion of the distributed service on the first virtual machine (performance is measured by the replica router to obtain a metric used to measure the current network performance between the replica router and the replica server, which in this instance is the distributed service [network connectivity and data transmission] the client is requesting, col 8 lines 30-47).
- Moving the distributed service to a second virtual machine on a second router if the required portion is greater than the available portion (once a suitable replica server, or second virtual machine is found based on the analysis of the IP address, the distributed service is moved by the replica router to the replica server by sending a redirect message to the client which in response automatically starts receiving the processed information, col 8 lines 30-62).

In regards to claim 11, Gifford discloses:

- Copying the distributed service to create a duplicate distributed service (a set of redirection messages are created and sent to the client which create a duplicate service at a replica server site, col 8 lines 48-58).

- Moving the duplicate distributed service to the second virtual machine at the second router (once a suitable replica server, or second virtual machine is found based on the analysis of the IP address, the distributed service is moved by the replica router to the replica server by sending a redirect message to the client which in response automatically starts receiving the processed information, col 8 lines 30-62).
- Removing the distributed service from the first virtual machine when the lease constraints expire (once the IP address is used to determine a location to move the service to, the service is ended at the first virtual machine at the replica router, col 8 lines 48-55).

In regards to claim 14, Gifford discloses a router, comprising:

- A processor (the replica router can be stored locally on a computer, which contains a processor, col 3 lines 8-12).
- A first virtual machine coupled to the processor, the virtual machine operable to:
 - Host a distributed service (at the replica router, a first virtual machine is created that begins the execution of a distributed service, in this case web-based processing, col 7 lines 51-59).
 - Receive lease constraints associated with a request to use the distributed service (lease constraints are attached to the request, in this case the IP address is included to constrain the system to provide service at a replica server located close to the requesting client in the system, col 7 line 57 – col 8 line 10).

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- Determine if the distributed service should be moved to a second virtual machine on a remote router based the lease constraints (once a suitable replica server, or second virtual machine is found based on the analysis of the IP address, the distributed service is moved by the replica router to the replica server by sending a redirect message to the client which in response automatically starts receiving the processed information, col 8 lines 30-62).

In regards to claim 15, Gifford discloses the first virtual machine is operable to:

- Locate the second virtual machine on the remote router (the replica router locates a second virtual machine at a second router location, col 8 lines 19-29).
- Allocate a processing resource on the remote router to execute the distributed service on the second virtual machine (once the redirect message is sent to the user, the second virtual machine, located at the replica server, allocates resources to fulfilling the client's request, col 8 line 53 – col 9 line 5).
- Move the distributed service from the first virtual machine to the second virtual machine (the client is automatically redirected to the second virtual machine by way of a redirection message sent from the first virtual machine at the replica router, col 8 lines 48-55).

In regards to claim 16, Gifford discloses:

- The lease constraints include a minimum amount of processing resources required to execute the distributed service (the request can include a limit to the network processing resources available, and to the required limit needed to fulfill

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the request, which is monitored by the replica router by measuring current performance at the client, col 8 lines 30-34).

- The first virtual machine is operable to:
 - Identify a portion of the processor available to execute the distributed service on the first virtual machine (a replica summary record is created which can include performance metric values that are evaluated against the requirements of the request, col 6 lines 20-32).
 - Move the distributed service to the second virtual machine on the remote router if the minimum amount of processing resources is greater than the identified portion of the processor (the best available replica server is chosen and a message is sent to the client which redirects the client to the second virtual machine, one which has been checked for the minimum necessary performance levels, col 8 lines 42-58).

In regards to claim 17, Gifford discloses:

- The lease constraints include a portion of the distributed service requested for use (the lease constraints in the given example include an IP address, a network performance metric, and a basic request for information, the request for information which carries a required portion of processing resources needed for fulfilling the request, col 7 lines 51-59, col 8 lines 30-34).
- The first virtual machine is operable to:
 - Measure an available portion of the distributed service (performance is measured by the replica router to obtain a metric used to measure the current network performance between the replica router and the replica

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server, which in this instance is the distributed service [network connectivity and data transmission] the client is requesting, col 8 lines 30-47).

- o Move the distributed service to the second virtual machine on the remote router if the required portion is greater than the available portion (the best available replica server is chosen and a message is sent to the client which redirects the client to the second virtual machine, one which has been checked for the minimum necessary performance levels, col 8 lines 42-58).

In regards to claim 18, Gifford discloses the first virtual machine is operable to:

- Analyze traffic flow on a first network (the flow of messages between the first virtual machine and the second virtual machine are measured, the results which are used to determine network traffic performance, col 8 lines 30-38).
- Move the distributed service to the second virtual machine on the remote router to optimize the traffic flow on the first network (using the metric values of network performance, the first virtual machine can determine a second virtual machine to forward the request to which would optimize network traffic flow as well, col 8 lines 38-47).

In regards to claim 19, Gifford discloses the first virtual machine is operable to:

- Copy the distributed service to create a duplicate distributed service (a set of redirection messages are created and sent to the client which create a duplicate service at a replica server site, col 8 lines 48-58).

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- Move the duplicate distributed service to the second virtual machine on the remote router (once a suitable replica server, or second virtual machine is found based on the analysis of the IP address, the distributed service is moved by the replica router to the replica server by sending a redirect message to the client which in response automatically starts receiving the processed information, col 8 lines 30-62).
- Remove the distributed service when the lease constraints expire (once the IP address is used to determine a location to move the service to, the service is ended at the first virtual machine at the replica router, col 8 lines 48-55).

In regards to claim 20, Gifford discloses logic encoded in media for providing a distributed service at a router within a network, the logic operable to perform the following steps:

- Executing a distributed service on a first virtual machine at a first router located on a first network (at the replica router, a first virtual machine is created that begins the execution of a distributed service, in this case web-based processing, col 7 lines 51-59).
- Receiving lease constraints associated with a request to use the distributed service (lease constraints are attached to the request, in this case the IP address is included to constrain the system to provide service at a replica server located close to the requesting client in the system, col 7 line 57 – col 8 line 10).
- Determining to move the distributed service to a second virtual machine at a second router based on the lease constraints (once a suitable replica server, or second virtual machine is found based on the analysis of the IP address, the

distributed service is moved by the replica router to the replica server by sending a redirect message to the client which in response automatically starts receiving the processed information, col 8 lines 30-62).

In regards to claim 21, Gifford discloses:

- Locating the second virtual machine at the second router (the replica router locates a second virtual machine at a second router location, col 8 lines 19-29).
- Allocating a processing resource on the second virtual machine to execute the distributed service (once the redirect message is sent to the user, the second virtual machine, located at the replica server, allocates resources to fulfilling the client's request, col 8 line 53 – col 9 line 5).
- Moving the distributed service from the first virtual machine to the second virtual machine (the client is automatically redirected to the second virtual machine by way of a redirection message sent from the first virtual machine at the replica router, col 8 lines 48-55).

In regards to claim 22, Gifford discloses:

- The lease constraints comprise a required portion of the distributed service requested for use (the lease constraints in the given example include an IP address, a network performance metric, and a basic request for information, the request for information which carries a required portion of processing resources needed for fulfilling the request, col 7 lines 51-59, col 8 lines 30-34).
- Determining to move the distributed service by the first virtual machine based on the lease constraints comprises:

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- o Measuring an available portion of the distributed service on the first virtual machine (performance is measured by the replica router to obtain a metric used to measure the current network performance between the replica router and the replica server, which in this instance is the distributed service [network connectivity and data transmission] the client is requesting, col 8 lines 30-47).
- o Moving the distributed service to the second virtual machine on the second router if the required portion is greater than the available portion (the best available replica server is chosen and a message is sent to the client which redirects the client to the second virtual machine, one which has been checked for the minimum necessary performance levels, col 8 lines 42-58).

In regards to claim 23, Gifford discloses determining to move the distributed service by the first virtual machine based on the lease constraints comprises:

- Analyzing traffic flow on the first network (the flow of messages between the first virtual machine and the second virtual machine are measured, the results which are used to determine network traffic performance, col 8 lines 30-38).
- Moving the distributed service to the second virtual machine on the second router to optimize the traffic flow on the first network (using the metric values of network performance, the first virtual machine can determine a second virtual machine to forward the request to which would optimize network traffic flow as well, col 8 lines 38-47).

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In regards to claim 24, Gifford discloses:

- Copying the distributed service to create a duplicate distributed service (a set of redirection messages are created and sent to the client which create a duplicate service at a replica server site, col 8 lines 48-58).
- Moving the duplicate distributed service to the second virtual machine at the second router (once a suitable replica server, or second virtual machine is found based on the analysis of the IP address, the distributed service is moved by the replica router to the replica server by sending a redirect message to the client which in response automatically starts receiving the processed information, col 8 lines 30-62).
- Removing the distributed service from the first virtual machine if the lease constraints expire (once the IP address is used to determine a location to move the service to, the service is ended at the first virtual machine at the replica router, col 8 lines 48-55).

In regards to claim 25, Gifford discloses moving a portion of the distributed service to the second virtual machine at the second router based on the lease constraints. (based on the IP address, or the necessary network performance, the replica router, or first virtual machine can forward the request to a second virtual machine, which in turn can further forward another portion of the request to another server, col 8 lines 20-47, col 8 line 58 – col 9 line 5).

In regards to claim 28, Gifford discloses an apparatus for providing a distributed service at a router within a network, comprising:

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- Means for executing a distributed service on a first virtual machine at a first router located on a first network (at the replica router, a first virtual machine is created that begins the execution of a distributed service, in this case web-based processing, col 7 lines 51-59).
- Means for receiving lease constraints associated with a request to use the distributed service (lease constraints are attached to the request, in this case the IP address is included to constrain the system to provide service at a replica server located close to the requesting client in the system, col 7 line 57 – col 8 line 10).
- Means for determining to move the distributed service to a second virtual machine at a second router based on the lease constraints (once a suitable replica server, or second virtual machine is found based on the analysis of the IP address, the distributed service is moved by the replica router to the replica server by sending a redirect message to the client which in response automatically starts receiving the processed information, col 8 lines 30-62).

In regards to claim 29, Gifford discloses:

- The lease constraints comprise a required portion of the distributed service requested for use (the lease constraints in the given example include an IP address, a network performance metric, and a basic request for information, the request for information which carries a required portion of processing resources needed for fulfilling the request, col 7 lines 51-59, col 8 lines 30-34).
- Determining to move the distributed service by the first virtual machine based on the lease constraints comprises:

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- Means for measuring an available portion of the distributed service on the first virtual machine (performance is measured by the replica router to obtain a metric used to measure the current network performance between the replica router and the replica server, which in this instance is the distributed service [network connectivity and data transmission] the client is requesting, col 8 lines 30-47).
- Means for moving the distributed service to the second virtual machine on the second router if the required portion is greater than the available portion (the best available replica server is chosen and a message is sent to the client which redirects the client to the second virtual machine, one which has been checked for the minimum necessary performance levels, col 8 lines 42-58).

In regards to claim 30, Gifford discloses means for moving a portion of the distributed service to the second virtual machine at the second router based on the lease constraints (based on the IP address, or the necessary network performance, the replica router, or first virtual machine can forward the request to a second virtual machine, which in turn can further forward another portion of the request to another server, col 8 lines 20-47, col 8 line 58 – col 9 line 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-9, 12-13, 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gifford in view of Pitkin et al. (US Patent 5341477), hereinafter referred to as Pitkin.

In regards to claim 7, Gifford discloses the limitations of claim 1, however Gifford fails to disclose:

- Locating a service broker on the first network.
- Requesting that the service broker locate the distributed service.

Pitkin discloses a system where a client can locate a service broker on a network, the broker being an apparatus which monitors the status of a set of servers, and responds to a client's request for distributed services by providing the client with a server that is best able to satisfy the client's service request (col 2 lines 36-41). As can be seen in this cited passage, Pitkin teaches both limitations of locating a service broker on the first network, and requesting that the service broker locate the distributed service. Pitkin teaches that utilizing a service broker can be beneficial as network resources are used more efficiently, as well as reduce computational overhead for the broker and communications overhead on the network (col 3 lines 25-27).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Gifford to include locating a service broker on the first network and requesting that the service broker locate the distributed service as taught by Pitkin to improve overall network functionality as network resources are used more efficiently,

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and computational overhead for the broker and communications overhead on the network are both lowered significantly.

In regards to claims 8 and 26, Gifford discloses:

- Identifying a plurality of locations for the distributed service on one or more networks (the replica router identifies all servers or replica servers capable of handling the request, col 8 lines 19-52).
- Determining availability of the distributed service at each identified location (each server in the replica routing table has its network performance measured and evaluated for determining an appropriate server for the client to be redirected to, col 8 lines 30-47).

However Gifford fails to disclose:

- Locating a service broker on the first network.
- Requesting that the service broker locate the distributed service.

As can be seen from the discussion of claim 7, Pitkin discloses these two limitations as well as provided motivation for modifying Gifford to include the limitations.

In regards to claims 9, 12, and 27, Gifford discloses:

- Determining a plurality of locations of each of the distributed services on one or more networks (the replica router identifies all servers or replica servers capable of handling the request, col 8 lines 19-52).
- Selecting the distributed services based on the lease constraints (each server in the replica routing table has its network performance measured and evaluated for

determining an appropriate server for the client to be redirected to, col 8 lines 30-47).

- Combining the selected distributed services to perform the desired function (a replica server as well as a master server can be combined to perform the desired function, col 8 line 58 – col 9 line 5).

However Gifford fails to disclose:

- Locating a service broker on the first network.
- Asking the service broker to create a service path including a plurality of distributed services that perform a desired function.

As can be seen from the discussion of claim 7, Pitkin discloses these two limitations as well as provided motivation for modifying Gifford to include the limitations.

In regards to claim 13, Gifford discloses generating the lease constraints associated with the request to use the distributed service (lease constraints are attached to the request, in this case the IP address is included to constrain the system to provide service at a replica server located close to the requesting client in the system, col 7 line 57 – col 8 line 10). However Gifford fails to disclose:

- Locating a service broker on the first network.
- Requesting that the service broker locate the distributed service.

As can be seen from the discussion of claim 7, Pitkin discloses these two limitations as well as provided motivation for modifying Gifford to include the limitations.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Lumelsky et al. (US Patent 6463454), a system for providing web-based processing services based on sets of criteria, the system dynamically allocating services in a manner that controls both processing performance and network performance.
- Devarakonda et al. (US Patent 6757729), a virtual environment manager for configuring client services at remote locations.
- Downs et al. (US Patent 6112243), a system utilizing a resource allocator acting as a broker to distribute computational resources to clients as needed for distributed services.
- Kubo (US Patent 5881284), a clustered computer system with resource sharing where a client request is scheduled and distributed to a server by a request controller acting as a resource broker.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John R Brancolini whose telephone number is (703) 305-7107. After October 18th, the examiner can be reached at (571) 272-3948. The examiner can normally be reached on M-Th 7am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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